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ABSTRACT

Five lesson plans are included in this unit designed to teach basic classification skills through the study of food. Each lesson plan contains an objective, list of materials needed, statement of the lesson problem, instructional strategies, learning outcomes, and evaluation method(s). Objectives of the lessons include: (1) grouping common animals eaten as food into three major categories; (2) identifying/grouping various vegetables as specific portions of a plant; (3) distinguishing fruits from vegetables; (4) naming various seeds that are eaten, including seeds that are ground into flour or used for cereals after shapes have been changed (for example, oats); and (5) reading ingredients from labels and telling the specific food groups they fit into. (Author/JN)

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TEACHING BASIC CLASSIFICATION THROUGH AN ELEMENTARY SCIENCE UNIT ON FOOD

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SE038819

UNIT: WHAT IS FOOD?

Unit Objectives

The student will be able to discuss that food comes only from living organisms; therefore, life is necessary to sustain life. The student will be able to select which category most familiar foods fit into, thereby working with basic classification.

Introduction

Open with discussion question, "What is food?" Let students discover that their answers will all fall into the two basic groups of living organisms: animals and plants. Depending on the age group, the teacher may assist in the students' discovery by writing answers on the board in two columns--one for each major group of foods--as they are given. This should continue until a student makes an independent observation of the grouping, or, if necessary, the teacher solicits an observation. (Insure that students give answers as specific foods such as wheat instead of bread.)

LESSON 1

Objective

The student will be able to group the common animals we eat into three major categories.

Materials

Pencils and paper for each group and possibly a book on animals or other pictorial aids

Problem

What kinds of animals do we eat?

Procedure

Open with problem question and when enough various answers have been submitted by the class, solicit the observation that there are three major categories of animals: fish, fowl, and four-legged animals. Divide the class into three groups and let each group discuss and list as many different kinds of animals in their category as they can. Each group will then read its list to the rest of the class for approval and discussion.

Outcome

The students will recognize many different edible animals and find that most all will fit into the three major categories. They may also discover--or the teacher may point out--that there are exceptions to the three groups such as snake or whale meat. The fourth category, animal products such as milk and eggs (food made and intended for the animals' own young), may be added by the teacher if it is not brought up in the class discussion.

Evaluation

The teacher will name cuts of meat, such as hamburger, bacon, drumstick, etc., and ask students to categorize that food. Students will be asked to tell what meat they ate for dinner/breakfast and name the category in which it belongs.

LESSON 2

Objective

The student will be able to identify and group the various vegetables we eat as specific portions of a plant.

Materials

A potted flowering plant, at least three different fresh vegetables from each category as "whole" as possible, dictionary

Problem

What is a vegetable?

Procedure

Ask problem question and after several answers have been offered, check with the dictionary to discover that any edible portion of a plant is considered a vegetable. Next, show students the flowering plant, pulling it out of the soil to reveal the roots. Ask the students if they would like to eat this plant. (Be sure to point out that parts of some plants are poisonous!) Let the students identify the different parts of the plant as root, stem, leaves, and flower. Tell the class that the plants we eat have the same parts as the plant we are viewing. Divide the class into three groups and give each a set of vegetables to identify and decide which part of the plant it is. (Each set of vegetables should have at least one representative of the four categories of roots, stems, leaves, and flowers.) Let each group show the vegetables and tell which part of the plant it is that we eat (may be a combination, such as stem and flower for broccoli).

If any group makes a mistake, let the other students point this out to them. (It would be helpful to have pictures of the whole plant on hand to assist the students.)

Outcome

The student will recognize vegetables as specific parts of larger plants, and while we may not eat the whole plant of one specific variety, the different parts are commonly eaten in one plant or another. Students may discover from questioning, or it will be noted by the teacher that some vegetables are not what they appear to be. For example, onions and Irish potatoes are stems and not roots.

Evaluation

Students will name vegetables they ate for lunch and tell which part of the plant it is.

LESSON 3

Objective

The student will be able to distinguish a fruit from other vegetables as a part of a flowering plant consisting of a fleshy or pulpy covering (envelope) enclosing a seed or seeds (to include nuts as dry, one-seeded fruits).

Materials

Various samples of fruit to include those not normally understood to be fruits, such as tomato, squash, nuts, cucumber, etc.

Problem

What is fruit?

Procedure

The teacher will ask a student read the definition of fruit from the dictionary. The teacher will then hold up various samples of fruit and ask the class to decide if it is indeed a fruit. It may be necessary to cut open and inspect some samples if there are any doubters. The teacher will then show other samples of fruit such as a tomato and ask if these are fruit also. After some discussion, the teacher should cut each sample open to see if they fit the acknowledged definition of fruit. Lastly, nuts will be shown and explained to be a dry, one-seeded fruit.

Outcomes

Students will recognize various types of fruit and should be able to hypothesize that while all fruits are vegetables (edible portions of a plant), not all vegetables are fruits. Students may make the observation or it may be revealed by the teacher that fruit is the product of a flowering plant and contains the material (seeds) necessary for a plant to reproduce itself.

Evaluation

The teacher will name various edible vegetation and the students will classify it as fruit or other types of vegetables.

LESSON 4

Objective

The student will be able to name various seeds we eat,

including the seeds that are ground into flour or used for cereals after the shape has been changed (for example, oats).

Materials

Edible seeds the children have brought from their kitchens to include a fresh bean or pea pod and a fresh ear of corn

Problem

Do we eat seeds?

Procedure

Let the students name the many different kinds of seeds that we eat to include corn, popcorn, sunflower, pumpkin, rice, etc., making sure to include the flour and cereal grains such as wheat, oats, barley, rye, etc. Point out that these are usually ground, cracked, rolled, or otherwise changed into a more usable form for cooking. Open a fresh bean or pea pod to reveal the recognizable seed inside. Explain that while the pod (envelope) and enclosed bean/pea are fruit--we sometimes only eat the seed of certain fruits, such as the peanut. We may also eat the fruit and seeds together, such as with the green bean. Let the students give other examples of each category. Ask the students if all the edible seeds they brought from home came inside a fruit. Show the ear of corn and let the class name other examples. It may be helpful to have pictures of grains and other seed-bearing plants.

Outcome

Students will learn that many of their favorite foods such as breads, cakes, cookies, crackers, and cereals are largely made of

seeds. They will also discover that while all flowering plants make seeds, those seeds do not necessarily come inside a fruit.

Evaluation

Ask students to write the names of ten different seeds that we eat. Have the students plant the seed they brought from home to determine if it will grow into a plant that will eventually produce more seeds. (Because some seeds have been treated or processed, not all will be able to sprout.)

LESSON 5

Objective

Students will be able to read the ingredients from a package wrapper and tell which specific food group each ingredient belongs to.

Materials

Package labels the children have brought from last night's dinner or breakfast, labeled pictorial chart showing the various food groups the students have been exploring (may be prepared as students study each group or brought completed for last lesson)

Problem

Is everything we eat food?

Procedure

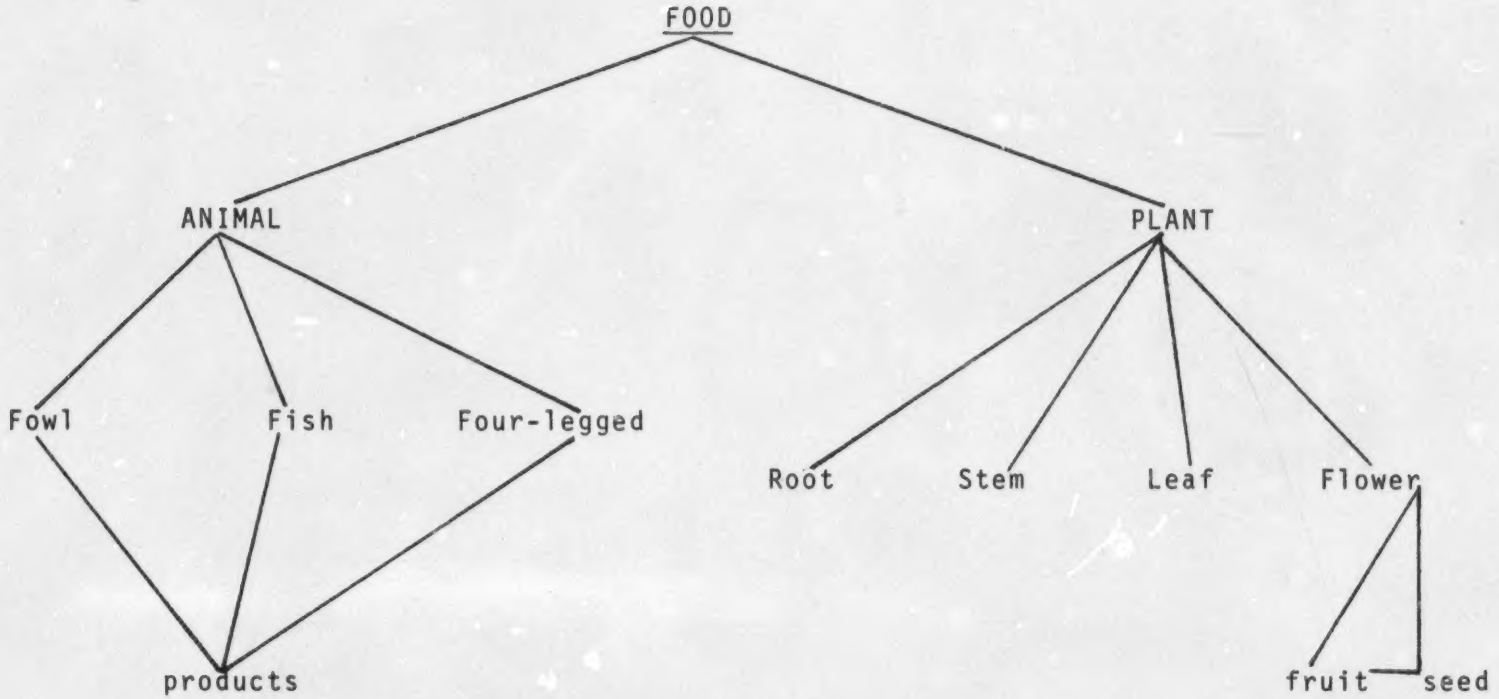
Each student will read the list of ingredients from his label and tell the specific food group it fits into. Classmates should supply help whenever it is needed.

Outcome

The students will discover that there are many non-foods or chemicals that are added to the things we eat (water, salt, preservatives, artificial coloring, artificial flavor, artificial vitamins, emulsifiers, etc.). The student will also discover, or it may be revealed by the teacher, that some food ingredients are made from a portion of a part of a plant, such as sugar or shortening. Also, the students may discover that there are foods that are exceptions to the chart, such as yeast.

Evaluation

The teacher will list the ingredients for an imaginary package label and the students will classify the ingredients using the chart.


FOOD
ANIMAL
PLANT
Fowl
Fish
Four-legged
Root
Stem
Leaf
Flower
products
fruit
seed

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